

# Bioacoustic demonstration of the Tree Frog, *Hyla arborea*, (Amphibia: Anura) in western Turkey

by Hans Schneider

**Abstract:** The advertisement calls of Tree Frogs were recorded at four sites in western Turkey and analysed. The recording sites lie on a transect from the south coast to the Sea of Marmaris. That the four sites are inhabited by *Hyla arborea arborea* is demonstrated by the similarity between the advertisement call here and that of the Tree Frogs in southwestern Germany. There are clear differences from the calls of *H. a. kretensis* on Crete.

**Kurzfassung:** An vier Standorten in der West-Türkei wurden die Paarungsrufe von Laubfröschen aufgenommen und analysiert. Die Aufnahmeorte liegen auf einem Transekt von der Südküste zum Marmara Meer. An diesen Standorten kommt *Hyla arborea arborea* vor, denn ihre Rufe stimmen mit denen der Laubfrösche in Südwest-Deutschland überein; sie unterscheiden sich klar von den Paarungsrufen von *H. a. kretensis* auf Kreta.

**Key words:** Advertisement call, call analysis, distribution of species, *Hyla arborea*, *H. savignyi*.

## Introduction

MERTENS & WERMUTH established in 1960 that Europe is inhabited by only one species of Tree Frog: *Hyla arborea*, with six subspecies. The Tree Frog in Israel has also been classified as a subspecies of *H. arborea*. This evaluation is understandable inasmuch as it was based entirely on external morphological characters, and all these frogs resemble one another in size and colouration. However, comparative bioacoustic studies soon showed that several subspecies have very different and specific advertisement calls, so that they should be recognized as species. There are especially conspicuous differences between the advertisement calls of the Central European Tree Frog of southwestern Germany and the Mediterranean Tree Frog of the Camargue, France, and of Tenerife (SCHNEIDER 1966, 1967, 1968, 1974, 1977, 1978). One reason for analysing the advertisement calls of the frogs on Tenerife was that the description of the Mediterranean Tree Frog by BOETTGER (1874) was based on this population. In phonotaxis experiments females of the Mediterranean Tree Frog reliably discriminated the advertisement calls of conspecific males from calls of *H. a. arborea* (GERHARDT & SCHNEIDER 1980, SCHNEIDER 1982, SCHNEIDER & Inst. Wiss. Film 1984). This result confirmed the conclusion drawn from the call analysis, namely that the Mediterranean Tree Frog is not a subspecies of *H. arborea*.

The Tree Frog in Israel was also shown to be a species, *H. savignyi*, on the basis of the specific structure of the advertisement call and the behaviour of both males and females, which distinguish the advertisement calls of conspecific males from those of *H. a. arborea*